

NWS FORM E-5

(11-88)

(PRES. by NWS Instruction 10-924)

U.S. DEPARTMENT OF COMMERCE**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION****NATIONAL WEATHER SERVICE****HYDROLOGIC SERVICE AREA (HSA)****WFO Jackson, Mississippi****MONTHLY REPORT OF HYDROLOGIC CONDITIONS**

REPORT FOR:

MONTH

YEAR

December 2013

SIGNATURE

Alan E. Gerard, Meteorologist In-Charge

DATE

1/16/2014

TO: Hydrometeorological Information Center, W/OH2
NOAA / National Weather Service
1325 East West Highway, Room 7230
Silver Spring, MD 20910-3283

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)



An X inside this box indicates that no river flooding occurred within this hydrologic service area.

Synopsis...

Overall, rainfall was below normal this past December. All ASOS locations received roughly one inch below normal rainfall, except for Meridian which received 2.00+ inches above normal. With respect to temperatures, December was about normal. Jackson, Vicksburg, Greenwood, and Greenville all averaged below normal temperatures, while Meridian and Hattiesburg averaged above normal.

The month began very quietly and with seasonably warm weather. Not until the 6th did a cold front bring some much colder temperatures as well as a bit of rainfall to the Hydrologic Service Area (HSA). Rainfall totals ranged from a quarter inch up to 2.00 inches of rainfall. Some light icing was reported across northwest portions of the HSA. A narrow heavy band of rainfall from southern Chico to southwestern Sunflower produced up to 3.00 inches. On the 8th, the frontal boundary that had moved through the region on the 6th remained stalled southeast of the HSA. Moderate to heavy rainfall fell south and east of Natchez Trace Parkway. The most efficient isentropic lift (warm, moist air pushing up an over the shallow cold air at the surface) occurred just north of the stalled frontal boundary across Southeast and East Mississippi. A very heavy band of rainfall developed from Lawrence County to Lauderdale County, Mississippi where rainfall from 2.00 to 4.00 inches fell. Some minor flooding was reported along Tallahala Creek in Jones County several days later. An upper level trough pushed through on the 9th bringing an additional quarter to three quarters of inch of rainfall to the HSA. High pressure was in control of the weather across the southern states by the 11th.

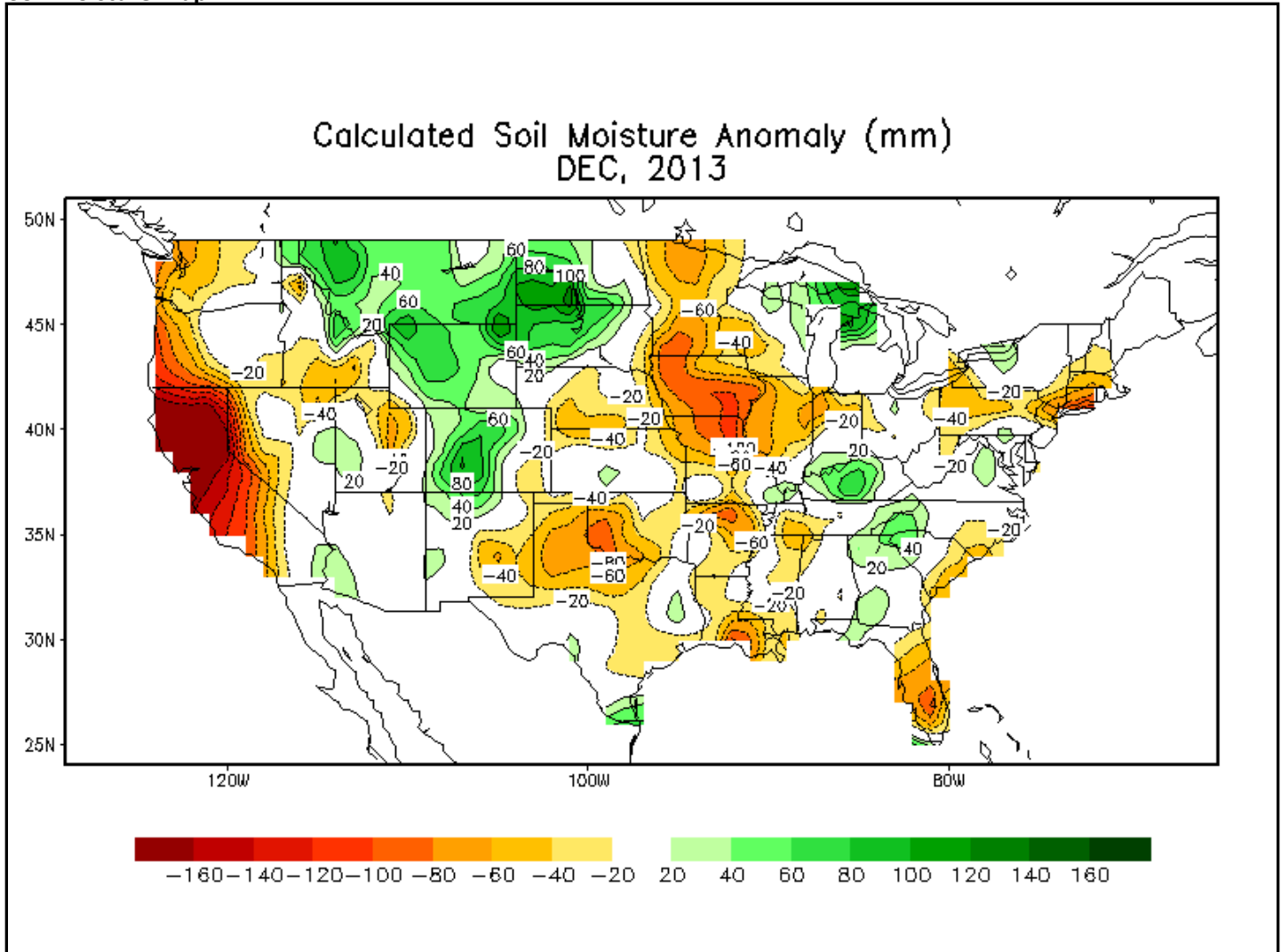
The high pressure remained a stronghold through the 13th until a cold front slowly progressed through the South on the 14th and 15th. Rainfall totals from this event topped out just above an inch. Cold air moved in behind the front and a gradual warming trend quickly began after the initial chill set in. By the 21st, temps were well above normal as another cold outbreak approached.

A cold front tracked across the HSA on the 21st. With the right conditions in place, severe weather broke out and dropped a good bit of rain across the HSA, especially along the Big Black River where 2.00+ inches fell in the southern part of the basin.

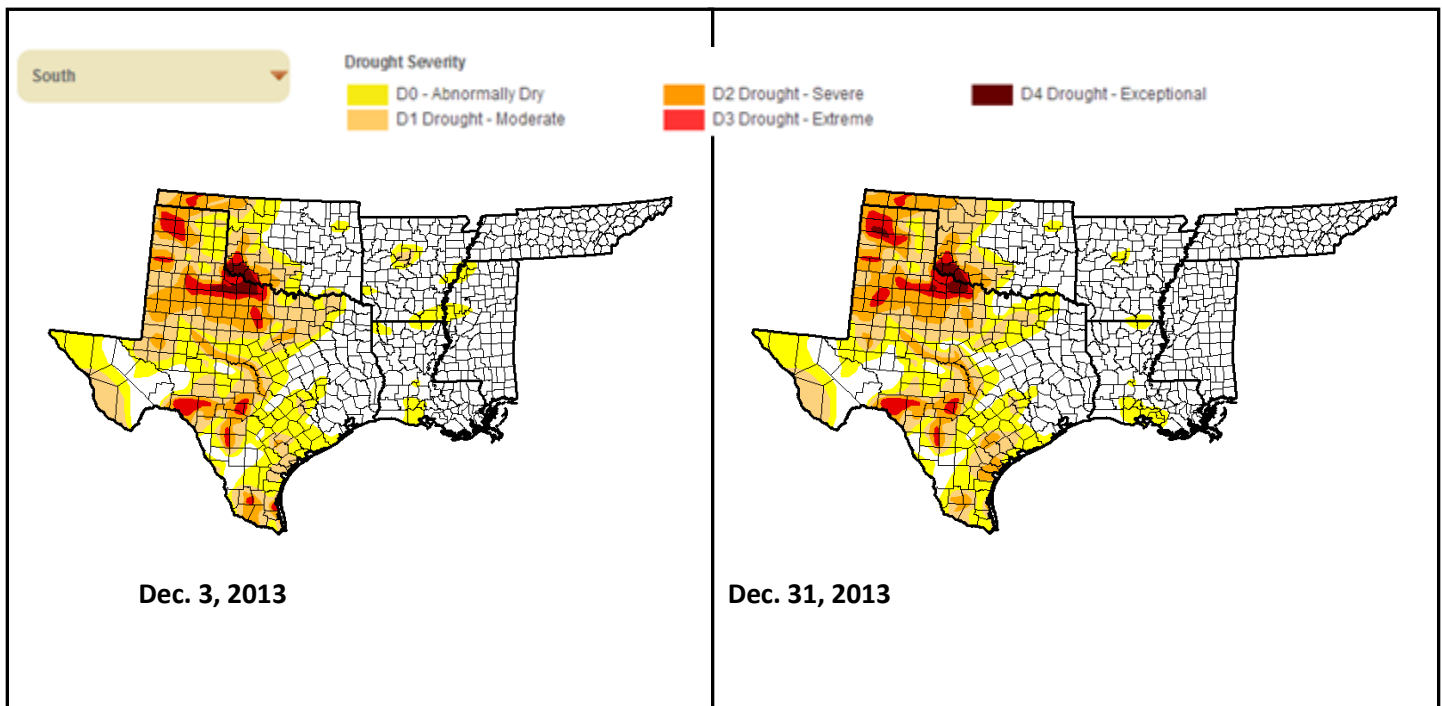
Christmas Day was a typical, snowless, rainless, 50-degree day in the HSA. High pressure remained in control in the South until the 28th. A low pressure system formed in the Gulf of Mexico and traveled northeastward into Louisiana and Mississippi. Cloudy and drizzly conditions followed. A half an inch to 2.00 inches fell southeast of the Natchez Trace Parkway. The month ended dry and with near normal temperatures.

River and Soil Conditions...

Soil Moisture Map:

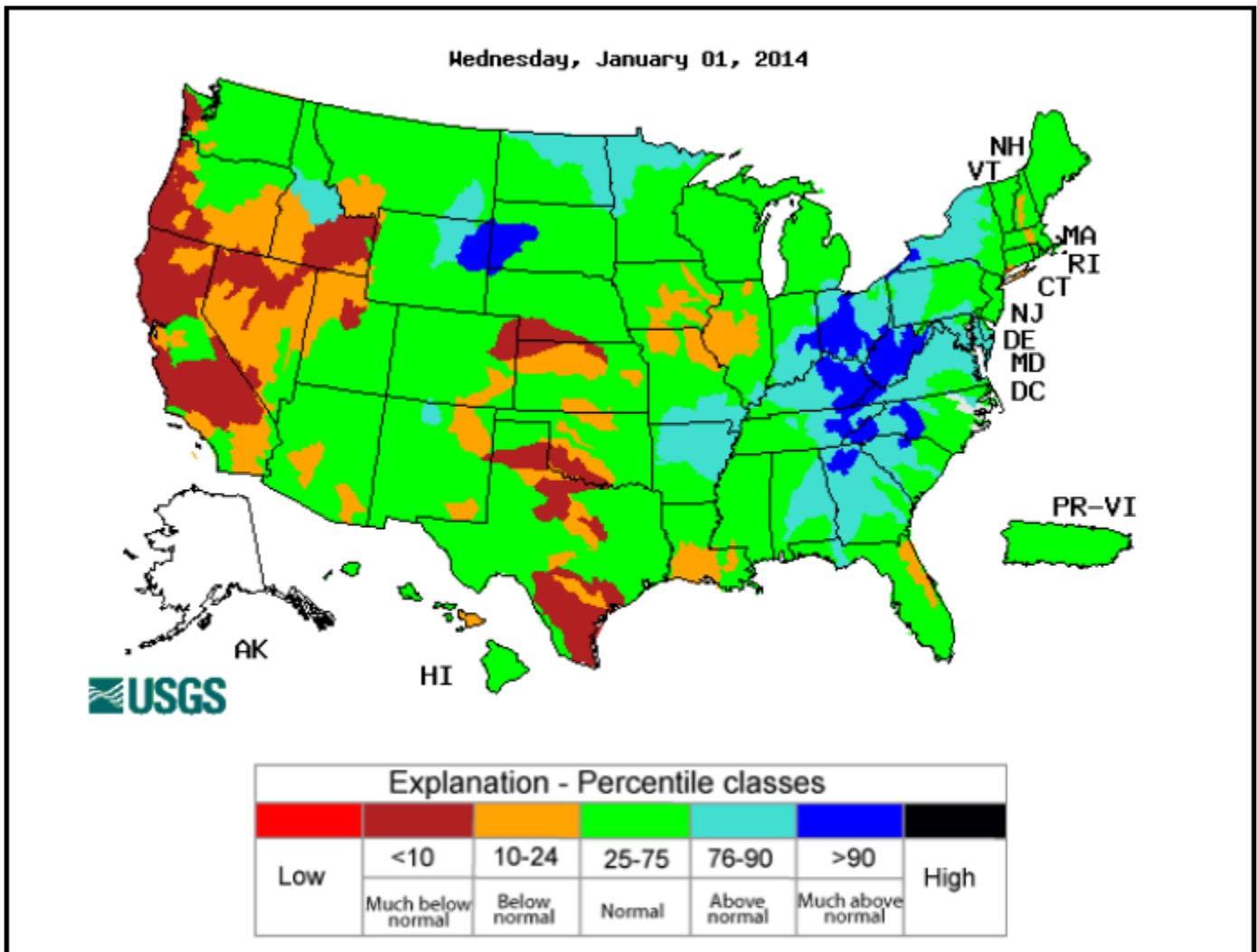


Drought Comparison:



Streamflow:

The United States Geological Survey's (USGS) December 2013 river streamflow records were compared with all historical December streamflow records. Streamflow was normal across all of the Jackson HSA in Mississippi, Louisiana, and Arkansas.



River Conditions:

Minor flooding occurred along the Tallahala Creek at Laurel; MS. The remaining gauged creeks and rivers experienced only a few minors during the month of December. The Mississippi River from Arkansas City to Natchez rose the entire month, except for a few minor, non-significant falls.

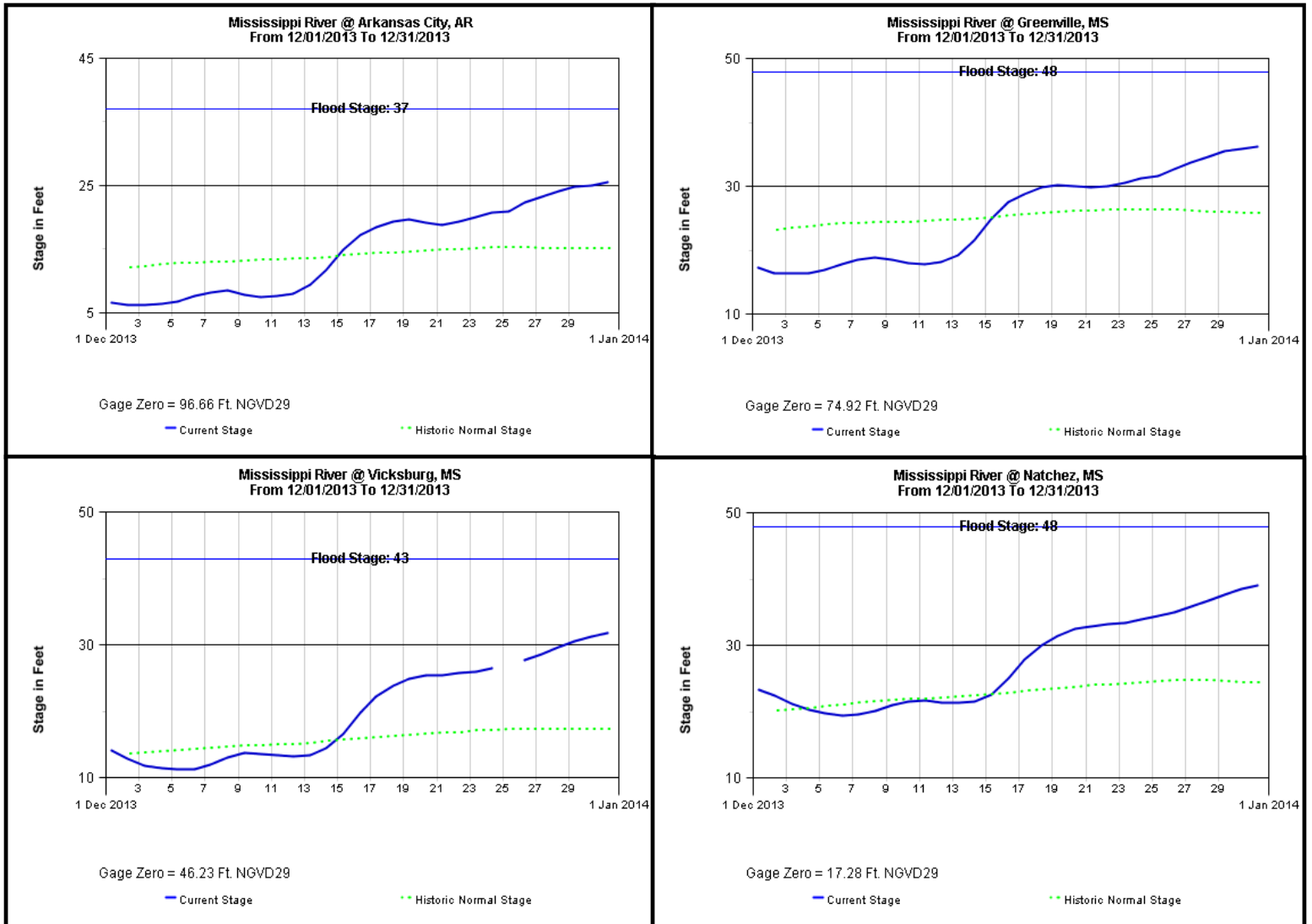
Climatic Outlook and Flood Potential:

The climatic outlook favors above normal temperatures over the next 3 month. As for precipitation, the outlook shows below normal chances of rainfall south of I-20 and an equal chance for above, below, and normal precipitation over the areas north of I-20 within the HSA. Based on current soil moisture, streamflow, and the 3-month weather outlook, the flood potentials are as follows:

Pearl River System: Average.
Yazoo River System: Average.
Big Black River System: Average.
Homochitto River System: Average.
Pascagoula River System: Average.
Northeast LA and Southeast AR: Average.
Tombigbee River System: Average.
Mississippi River: Average.

Mississippi River Plots December 2013

Plots courtesy of the United States Army Corps of Engineers



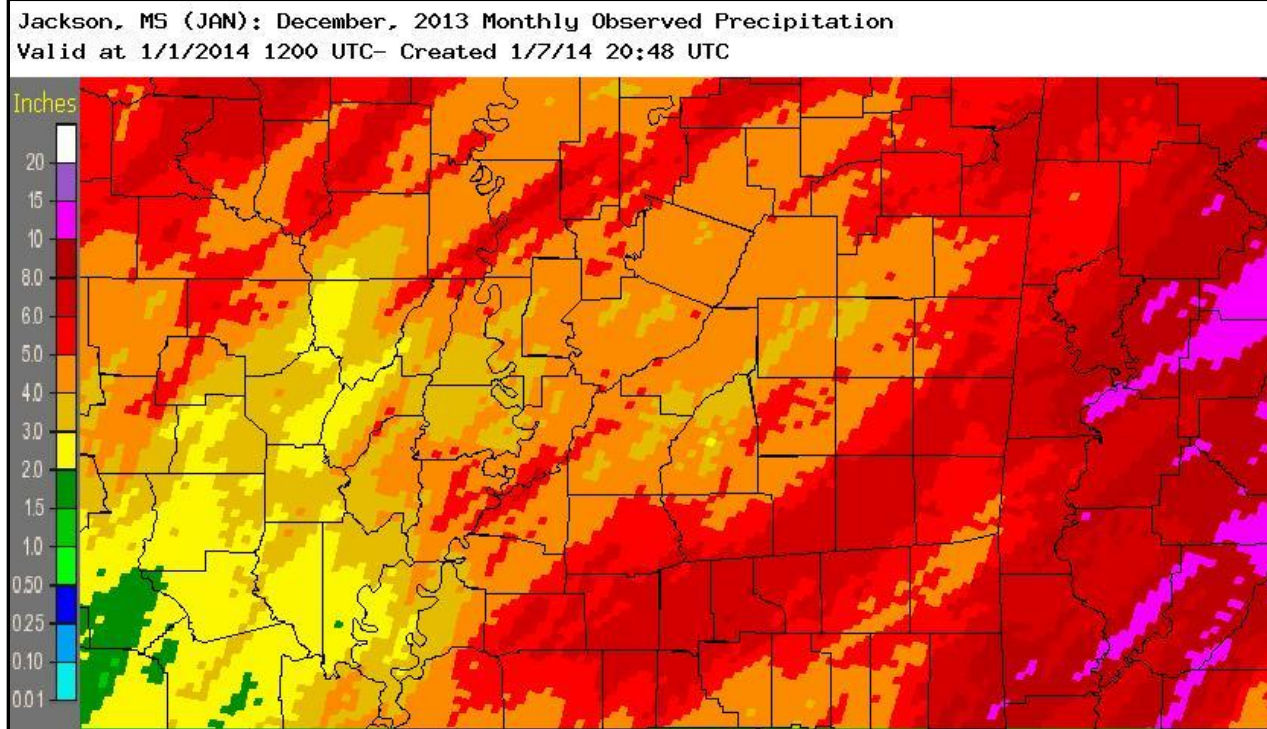
Monthly Preliminary High and Low Stages:

Location	Flood Stage (ft)	High Stage (ft)	Date	Low Stage (ft)	Date
Arkansas City	37	25.51	12/31	6.11	12/02
Greenville	48	36.37	12/31	16.38	12/03
Vicksburg	43	31.77	12/31	11.33	12/05
Natchez	48	39.18	12/31	19.43	12/6

Rainfall for the Month of December:

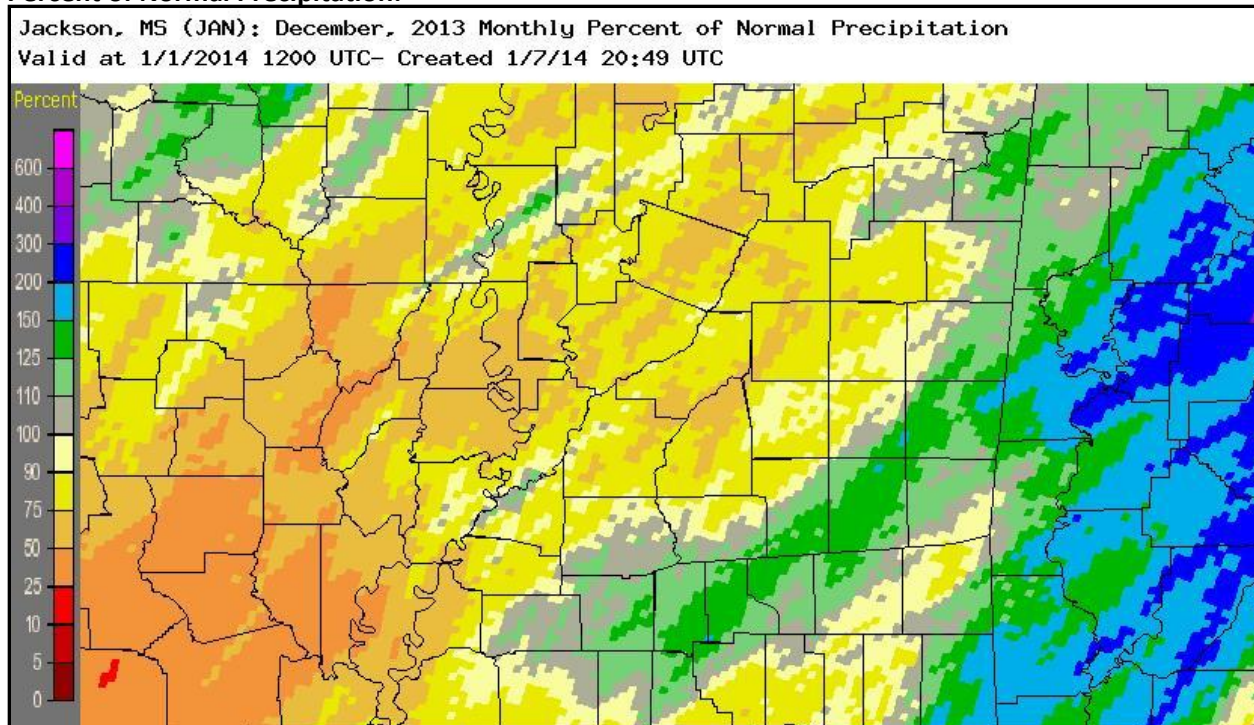
The largest rainfall amounts in the HSA from NWS Cooperative Observer reports during the period from 7 am on November 30th until 7 am on December 31st were: 8.78 inches at Collins, MS; 8.01 inches at Pat Harrison Waterway's Archusa Water Park, MS; 7.77 inches at Crandall, MS; 7.31 inches at Collinsville, MS; 7.10 inches at Columbus and Mize, MS; 7.00 inches at Okatibbee Reservoir, MS; 6.87 inches at Eudora, AR; 6.77 inches at Topton, MS; 6.43 inches at Bay Springs, MS; and 6.41 inches at Shubuta, MS

December Rainfall Estimates:



Note: Observer rainfall and MPE may differ due to time differences.

Percent of Normal Precipitation:



Note: Observer rainfall and MPE may differ due to time differences.

December Rainfall for Selected Cities:

City (Airport)	Rainfall	Departure from Normal	2013 Rainfall	2013 Departure from Normal
Jackson (KJAN)	4.50	-0.65	64.26	+10.12
Meridian (KMEI)	7.35	+2.29	67.27	+11.11
Greenville (KGLH)	4.53	-1.09	52.84	+0.20
Greenwood (KGWO)	4.69	-0.96	58.39	+6.62
Hattiesburg (KHBG)	3.92	-0.99	66.00	+6.83
Vicksburg (KTVR)	4.35	-1.26	67.93	+13.19

Total Flood Warning products issued: 1

Total Flood Statement products issued: 9

Total Flood Advisories MS River : 0

Daily Climate and Ag WX Products (AGO'S) issued: 31

Daily CoCoRaHS Rainfall Products (LCO'S) issued: 31

Daily River and Lake Summary Products (RVD'S) issued: 31

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Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.

cc: USGS Little Rock District
USGS Ruston District
USACE Mobile District
USACE Vicksburg District
USACE Mississippi Valley Division
USGS Mississippi District
SRH Climate, Weather and Water Division
Lower Mississippi River Forecast Center
Pearl River Valley Water Supply District
Hydrologic Information Center
Southern Region Climate Center
Pat Harrison Waterway District
Pearl River Basin Development District